

Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of)
)
Amendment of the Commission's Rules)
to Provide for Unlicensed NII/SUPERNet)
Operations in the 5 GHz Frequency Range)
_____)

ET Docket No. 96-102
RM-8648
RM-8653

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COMMENTS OF L/Q LICENSEE, INC.

William F. Adler
Vice President &
Division Counsel
GLOBALSTAR
3200 Zanker Road
San Jose, CA 95134

William D. Wallace
CROWELL & MORING
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
(202) 624-2500

Leslie A. Taylor
Guy T. Christiansen
LESLIE TAYLOR ASSOCIATES
6800 Carlynn Court
Bethesda, MD 20817
(301) 229-9341

Its Attorneys

Date: July 15, 1996

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SUMMARY

In these comments, L/Q Licensee, Inc., explains why the Commission should not permit NII/SUPERNet devices access to the 5150-5250 MHz band. First, granting the proposed unlicensed service access to the 5150-5250 MHz band is inconsistent with the Commission's commitment to secure the necessary spectrum to establish a competitive Mobile-Satellite Service. The Commission has long recognized the substantial public interest benefits to be provided by global MSS systems and has expended considerable effort to secure sufficient international spectrum allocations for MSS feeder links. This effort culminated in the allocation of additional MSS feeder link spectrum at WRC-95, including 159 MHz at 5091-5250 MHz. The Commission's proposal to permit unlicensed operations in the 5150-5250 band, however, would interfere with use of the band for MSS feeder links and is thus contrary to the Commission's MSS spectrum policy.

Second, sharing the spectrum between NII/SUPERNet devices and MSS feeder links does not appear feasible. The analysis presented herein demonstrates that only 1070 simultaneous users of NII/SUPERNet devices operating in the 5150-5250 band in the Continental United States would be required to produce unacceptable interference into GLOBALSTAR spacecraft from an unlicensed service. Given the demand suggested by the proponents of this service, it does not appear feasible to grant NII/SUPERNet devices access to the band.

Third, the Commission can accommodate unlicensed NII/SUPERNet devices without use of the 5150-5250 MHz band. There is no demonstrated market demand for 350 MHz of spectrum. Furthermore, neither the Commission nor the petitioners have demonstrated a need to use spectrum at 5 GHz. Given the potential adverse impacts on licensed services and the lack of demonstrated need, the Commission should not assign the 5150-5250 MHz to NII/SUPERNet use.

Finally, if NII/SUPERNet devices are permitted in the 5150-5250 MHz band, then the proposed safe harbor rule must be eliminated, and unlicensed devices must be limited to operation at very low power. Adoption of the safe harbor rule would be inconsistent with the Commission's policies regarding operation of Part 15 devices on a strictly non-interference basis. As discussed in the attached Technical Analysis, to ensure such operation, the aggregate EIRP density of the entire NII/SUPERNet service, including all users over a 3 million square mile area, must not exceed 0 dBW/MHz over any one MHz in the 5150-5250 MHz band at any instant in time.

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COMMENTS OF L/Q LICENSEE, INC.

Pursuant to Section 1.415 of the Commission's Rules, L/Q Licensee, Inc. (LQL) hereby submits its comments on the Commission's proposals in this docket to permit operation of unlicensed NII/SUPERNet devices in the 5150-5350 MHz and 5725-5875 MHz frequency bands.¹ LQL is the licensee of the Globalstar™ low-earth orbiting MSS Above 1 GHz system.² Currently pending before the Commission are LQL's application to modify its existing authorization for unconditional assignment of feeder link frequencies in the 5091-5250 MHz and 6875-7055 MHz bands (File No. 90-SAT-ML-96) and its Request for Waiver of the U.S. Table of Frequency Allocations to permit operation in the United States of MSS feeder links in accordance with the International Table of Frequency Allocations adopted at the 1995 World Radiocommunication Conference (WRC-95)

¹ See Notice of Proposed Rule Making, FCC 96-193 (released May 6, 1996) (NPRM).

² See Loral/QUALCOMM Partnership, L.P., 10 FCC Rcd 2333 (Int'l Bur. 1995), affirmed, FCC 96-279 (released June 27, 1996). The authorization was granted to Loral/QUALCOMM Partnership, L.P. (LQP), which is the parent corporation of LQL, and assigned to LQL pursuant to Commission consent in September 1995 (File No. 148-SAT-AL-95).

(File No. 88-SAT-WAIV-96). Accordingly, LQL is directly affected by the outcome of this proceeding.

INTRODUCTION

The proposals in the NPRM arise from petitions for rulemaking filed by the Wireless Information Networks Forum (WINForum) and Apple Computer, Inc. (Apple).³ In considering the merits of these proposals, the Commission must not lose sight of the fact that there is no equipment on the market or, to LQL's knowledge, under development that may be capable of providing NII/SUPERNet service at 5 GHz.⁴ Nor have the petitioners submitted any market research to show the potential demand for the product and the time frame in which demand might materialize. Rather, this proceeding was initiated in response to theoretical and exaggerated claims by equipment manufacturers who desire to sell their products at some future time, and who want to lay claim to spectrum at 5 GHz now in an effort to preempt other actual and potential users, instead of seeking

³ LQP (LQL's parent) opposed both petitions. See Opposition of Loral/QUALCOMM Partnership, L.P. (July 10, 1995); Reply Comments of Loral/QUALCOMM Partnership, L.P. (July 25, 1995).

⁴ WINForum recently announced formation of a "5 GHz Sharing Rules Drafting Subcommittee" and scheduled its organizational meeting for this summer to develop a spectrum protocol which would be used by manufacturers of these devices. See Letter from L. Ron Cross of WINForum to William F. Caton (dated June 13, 1996). Although the letter was filed in this docket, addressed to the Commission (not members of WINForum), and invited "all interested parties" to participate, upon request for information on the meeting, counsel for WINForum explained to counsel for LQL that only potential manufacturers of NII/SUPERNet devices who are members of WINForum would be allowed to attend.

spectrum that will certainly be available for them in a few years when they have products for which there is identified demand.

In contrast, the Commission, other governmental entities and many private parties have worked long hard hours at great expense to make a portion of this 5 GHz spectrum available for new, innovative consumer-oriented Mobile-Satellite Services (MSS). Just one year ago, the United States announced its support at the 1995 World Radiocommunication Conference (WRC-95) for an international allocation in this band for non-geostationary (NGSO) MSS feeder links.⁵ A U.S.-led contingent persuaded the international community to allocate spectrum for feeder links on a co-primary basis in the 5091-5250 MHz band.⁶

The facilities to use this allocation are under construction today for deployment within two years. Equipment has already been designed for 5 GHz feeder links in the expectation that the usefulness of the spectrum for which the Commission, other U.S. agencies and private industry fought so hard would not be compromised.

LQP has already demonstrated that operation of the proposed unlicensed devices would cause harmful interference to 5 GHz MSS feeder links operating in the U.S.-supported allocation.⁷ LQP's interference analysis was the only analysis

⁵ See United States Proposals for the 1995 World Radio Communication Conference, at "Proposals for Agenda Items 2.1c and 3d" (July 1995) ("U.S. WRC-95 Proposals").

⁶ See Final Acts of WRC-95, Pt. I, at 153-55 (Geneva 1995).

⁷ See Opposition of LQP, Engineering Declaration.

submitted which evaluated the impact of the unlicensed NII/SUPERNet devices on the licensed MSS service. Apple submitted neither its own interference analysis nor a rebuttal to LQP's. WINForum did offer an interference analysis drafted in another context by AT&T, but that analysis used incorrect input data.

Based on its unrebutted analysis, the failure of WINForum and Apple to demonstrate the ability of their devices to operate on a non-interference basis, and the Commission's commitment to MSS feeder links at 5 GHz, LQP argued that the Commission had no choice but to defer further consideration of these petitions until the petitioners (1) provided analyses of the feasibility of such devices sharing with existing radio navigation services and MSS feeder links in the bands and (2) demonstrated a need for the specific assignment of 5150-5250 MHz for the unlicensed service.

Although such analyses were not forthcoming, the Commission has nevertheless proposed to permit access to the 5150-5250 MHz band by unlicensed NII/SUPERNet devices. LQL is providing another analysis in these comments using the technical parameters proposed in the NPRM. This analysis confirms that operation of a relatively few NII/SUPERNet devices in the United States would degrade the usefulness of the 5 GHz band for MSS feeder links.

In these comments, LQL also demonstrates that the Commission can respond to the manufacturers proposing NII/SUPERNet even as it ensures the integrity of the 5 GHz spectrum for MSS feeder links. But, to do so, the Commission must decline to grant these devices access to the 5150-5250 MHz

band, or must, at the least, modify the proposals to establish a feasible plan for the devices to operate on a secondary basis.⁸ Absent such constraints, the Commission will have in practice repudiated its own recently adopted policies regarding competitive satellite services in addition to its policies and rules governing unlicensed operations.

I. AUTHORIZATION OF NII/SUPERNET AS PROPOSED IS INCONSISTENT WITH THE COMMISSION'S COMMITMENT TO A COMPETITIVE MSS ABOVE 1 GHZ SERVICE.

The United States' policy decision to support an allocation for MSS feeder links at 5 GHz represents a commitment to secure sufficient spectrum to establish a global, competitive MSS service. In similar proceedings to make spectrum available for new telecommunications services, the Commission has recognized that access to sufficient, unencumbered spectrum is essential to the success of the licensees. For example, in proposing an allocation of spectrum for new Personal Communications Services, the Commission stated that "it [is] important that each PCS licensee be provided enough spectrum to be competitive with existing telecommunications services such as cellular, SMRs and others."⁹ With like goals,

⁸ LQL does not object to use of the 5250-5350 MHz and 5725-5875 MHz bands for NII/SUPERNET devices. The Commission can demonstrate its commitment to the concept of these devices by assignment of a substantial bandwidth of 250 MHz to this new and untested service.

⁹ Amendment of the Commission's Rules to Establish New Personal Communications Services, Notice of Proposed Rule Making and Tentative Decision, 7 FCC Rcd 5676, 5691 (1992).

the Commission recently proposed to assign an MSS system first priority for access to spectrum in the lower L-band because the Commission "can and should . . . take reasonable and appropriate steps to ensure that our licensees have a fair opportunity to compete."¹⁰ The U.S. actions at WRC-95 reflect this consistent policy on allocations for new licensed services.

As the Commission is well aware, it and the MSS industry have worked very hard over the past five years to ensure the availability of adequate spectrum for Big LEO satellite systems to compete in the United States and globally. These efforts culminated in an international allocation for MSS user links at WARC-92¹¹ and an allocation of additional spectrum for MSS feeder links at WRC-95.¹² In allocating the user link spectrum for MSS, the Commission recognized the considerable public interest benefits to be provided by MSS systems, including "a universally available world-wide cellular-like radiotelephone service offering voice, data and facsimile services . . . at relatively low cost."¹³ The Commission has

¹⁰ Establishing Rules and Policies for the Use of Spectrum for Mobile Satellite Service in the Upper and Lower L-band, FCC 96-259, ¶ 14 (released June 18, 1996). LQL does not necessarily agree that the referenced proposal is proper. However, it does reflect the Commission's often-articulated view that new services must be given a chance to develop a competitive base. See also Provision of Aeronautical Services via the Inmarsat System, FCC 96-161, ¶ 19 (released May 9, 1996).

¹¹ See Final Acts of the World Administrative Radio Conference, 53-55 (Malaga-Torremolinos 1992).

¹² See supra note 6.

¹³ Amendment of Section 2.106 of the Commission's Rules to Allocate the 1610-1626.5 MHz and the 2483.5-2500 MHz Bands for Use by the Mobile-Satellite Service, Including Non-geostationary Satellites, 9 FCC Rcd 536, 539 (1993).

granted three companies licenses to provide to consumers the benefits of the NGSO MSS service, but each of these authorizations was issued on a conditional basis pending the Commission's efforts to secure international and domestic allocations for MSS feeder link spectrum.

Given the U.S. efforts to achieve international allocations for NGSO MSS feeder links, including 159 MHz at 5091-5250 MHz, and the infancy of the service itself, it is simply inconceivable that the Commission would seriously consider compromising the service's development. Apple and WINForum claim that NGSO MSS systems can share the 5150-5250 MHz band, but they have never demonstrated a feasible plan for sharing between NII/SUPERNet devices and MSS feeder links.¹⁴ However, as discussed in the next section, LQL's analysis indicates that only a relatively few unlicensed NII/SUPERNet devices could operate in the United States without resulting in unacceptable interference to Globalstar™ spacecraft, thus degrading the usefulness of the 5 GHz spectrum. The studies submitted by LQL to the record establish that the Commission simply does not have a factual basis on which to find that granting access for NII/SUPERNet devices in the 5150-5250 MHz band is consistent with its policies regarding development of competitive MSS services.

¹⁴ On May 3, 1996, Apple submitted a filing entitled "Implementing the NII Band: Suggested Technical Rules." This paper fails to address the feasibility of sharing with MSS feeder links or the objections of the MSS industry to Apple's proposals. In any event, the filing of this paper was an improper ex parte presentation during the Sunshine Agenda period, and should be returned without consideration. See 47 C.F.R. § 1.1203(a).

II. AS CURRENTLY PROPOSED, OPERATION OF NII/SUPERNET DEVICES WOULD IMPERMISSIBLY INTERFERE WITH MSS SYSTEMS.

As explained in the attached Technical Analysis, only 1070 simultaneous users of NII/SUPERNet devices operating in the 5150-5250 MHz band in the continental United States would be required to produce noticeable interference (0.1% delta T/T) into Globalstar™ spacecraft.¹⁵ This represents only 22 users per state (not including Alaska and Hawaii), which is far below the predictions of demand by Apple and WINForum.

The analysis attached to these comments is consistent with LQP's comments last summer, which demonstrated that there likely would be unacceptable interference into MSS feeder links in the 5 GHz band from operation

¹⁵ The Commission proposes that NII/SUPERNet devices would be required to accept interference from licensed services, like other Part 15 services. See NPRM, ¶ 54; proposed 47 C.F.R. § 15.409(b-c). LQL agrees with this tentative conclusion as well and with the Commission's conclusion that Apple's proposed "Part 16" service is not a viable option for these devices. See NPRM, ¶ 57. Because NII/SUPERNet devices are unlicensed, mobile and not locatable, their manufacturers and users cannot expect interference protection for individual devices.

of the proposed unlicensed devices.¹⁶ Neither of the analyses submitted by LQL has been rebutted.¹⁷

In the NPRM, the Commission identifies two independent pieces of evidence on the issue of sharing between MSS feeder links and NII/SUPERNet devices, but neither of these can be credited. First, the Commission notes that sharing between MSS feeder links and "High Performance Radio Local Area Network" (HIPERLAN) systems "has been addressed in Europe, [and] thus it appears feasible that similar operations such as NII/SUPERNet devices should also be able to share spectrum with MSS feeder links." NPRM, ¶ 35 (footnote omitted). However, the mere existence of the HIPERLAN proposal in Europe does not establish the feasibility of sharing with MSS feeder links. The Commission did not attempt to adopt the parameters proposed for HIPERLAN for NII/SUPERNet devices in this proceeding. Nor did it establish HIPERLAN-like parameters would protect MSS feeder links. Moreover, the Commission must set technical standards

¹⁶ See LQP Opposition, at 9-10; see also Constellation Comments, at 3-4 (July 10, 1995). Apple and WINForum's failure to establish the feasibility of using the proposed spectrum was universal. The Federal Aviation Administration also objected to the petitions of Apple and WINForum based on their failure to provide interference analyses for FAA's proposed MLS systems in the 5 GHz band. FAA Comments, at 1 (July 10, 1995). Apple's petition was criticized by amateur service operators for failing to demonstrate the potential for sharing with amateur services in the 5725-5875 MHz band. See Northern Amateur Relay Council of California Comments, at 5-6 (July 10, 1996); American Radio Relay League Comments, at 10-13 (July 10, 1995).

¹⁷ WINForum submitted an AT&T input paper to the Industry Advisory Committee concerning WRC-97 dated December 6, 1994. See WINForum Petition, App. B (May 15, 1995). This paper appears to have been an earlier version of ITU Document 4A/66-E which is discussed in this section.

based on the record before it, rather than some unknown record in the European Telecommunications Standard Institute (ETSI) proceeding.¹⁸

Second, the Commission relies upon the conclusions in an ITU Radiocommunication Study Group, Document 4A/66-E (Feb. 10, 1995). Constellation Communications, Inc., and LQP have already pointed out that the ITU analysis is not based on current input data, and, therefore, does not demonstrate the feasibility of sharing with MSS systems.¹⁹ As discussed in the attached Technical Analysis, the ITU analysis is fatally flawed because it uses inaccurate data for a Globalstar™-like system. Thus, this analysis does not demonstrate the feasibility of sharing between NII/SUPERNet devices and MSS feeder links.

Based on these analyses, it appears impractical to develop sharing protocols with NII/SUPERNet devices because of the unpredictability of their location and use and unaccountability of unlicensed devices for purposes of coordination. In similar circumstances -- allocating spectrum for unlicensed PCS -- the Commission recognized that sharing between a licensed service and nomadic, unlicensed

¹⁸ See, e.g., Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto. Ins., 463 U.S. 29, 43-44 (1983) (agency rule would be arbitrary and capricious if, inter alia, explanation "runs counter to evidence before the agency").

¹⁹ "The only interference calculation provided is based on the use of Hiperlan parameters. However, that calculation includes assumptions on a number of significant interference parameters, such as user activity factors, ratio of indoor/outdoor users, and building attenuation, which have not been shown to be representative of the unlicensed wireless data transmission networks envisioned by the petitioners." Constellation Comments, at 2-3 (July 10, 1995).

devices would be virtually impossible, and therefore, it forbade use of nomadic devices until the band was cleared.²⁰ This conclusion appears equally applicable here, but since the band will not be cleared of licensed devices, there is no future in using it for NII/SUPERNet.

III. THE COMMISSION CAN ACCOMMODATE UNLICENSED NII/SUPERNET WITHOUT COMPROMISING MSS ACCESS TO THE 5150-5250 MHZ BAND.

A. There Is No Demonstration of Demand for NII/SUPERNet Services Implicating a Need for the 5150-5250 MHz Band.

The Commission suggests in the NPRM that NII/SUPERNet services require a separate assignment of spectrum at 5 GHz in a bandwidth of 350 MHz. The Commission asserts that "dramatic developments in digital technology have stimulated a need for the availability of spectrum to be used for wireless interconnection" and that existing bandwidth available for wireless services is not adequate to meet broadband and data transmissions services. NPRM, ¶ 32. The Commission speculates that additional spectrum would benefit a vast number of users, including educational, medical, business and industrial users. NPRM, ¶¶ 33-34.

Assuming for the sake of argument that the extravagant claims of petitioners are accurate, there is still no objective basis for allocating 350 MHz of

²⁰ Amendment of the Commission's Rules to Establish New Personal Communications Services, Second Report and Order, 8 FCC Rcd 7700, 7738-39 (1993).

spectrum for NII/SUPERNet. WINForum requested 250 MHz to meet the demand for spectrum is based on the need for universal access to electronic media stored on the Internet on a simple, convenient and low-cost basis.²¹ Apple claimed that 300 MHz is required "to support high bandwidth [f]ast, personal, link connections to the Internet and other information resources and to meet the aggregate demand for unlicensed services in high-density areas."²² However, neither has explained what the market demand is or when it would materialize.²³ Moreover, like Apple and WINForum, the parties that supported their petitions provided only generalized, anecdotal evidence concerning the demand and/or need for the unlicensed service.

While the proposed benefits may warrant assignment of some spectrum for these devices, there is no demonstrated reason to allocate more than the 250 MHz at 5250-5350 MHz and 5725-5875 MHz for the new service. Such an assignment would be consistent with Apple's and WINForum's requests and would, at the same time, ensure sufficient spectrum for MSS feeder links. Access to more spectrum is simply unjustified.

Eliminating the 100 MHz at 5150-5250 MHz would not impair the potential of NII/SUPERNet devices. Just two years ago, the Commission determined that

²¹ WINForum Comments, at 2 (July 10, 1995).

²² Apple Comments, at 20 (July 10, 1995).

²³ In a "Spectrum Requirements Analysis," WINForum claims that 250-300 MHz would be needed with the caveat that "an accurate scenario is difficult to

40 MHz of spectrum in the PCS allocation would "provide sufficient spectrum to meet the needs of a wide range of unlicensed PCS operations, including both voice and data uses."²⁴ Although this spectrum allocation in the PCS block was later reduced to 20 MHz,²⁵ the Commission subsequently allocated another 10 MHz to unlicensed PCS at 2390-2400 MHz.²⁶ In the PCS proceeding, the Commission noted that Apple was one of the parties advocating an allocation of 35 to 70 MHz and that WINForum recommended an allocation of 45 MHz for unlicensed PCS.²⁷

In adopting these allocations, the Commission recognized that this spectrum could be used for "high and low speed data links between computing devices, cordless telephones and wireless PBXs"²⁸ and would "offer a portable 'on-ramp' to the information highway that will be accessible to everyone."²⁹ These allocations can be used now to provide services similar to those which Apple and WINForum anticipate for NII/SUPERNet devices.³⁰

²⁴ PCS Second Report, 8 FCC Rcd at 7738.

²⁵ See Amendment of the Commission's Rules to Establish New Personal Communications Services. Memorandum Opinion and Order, 9 FCC Rcd 4957, 4990 (1994).

²⁶ See Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, First Report and Order and Second Notice of Proposed Rule Making, 10 FCC Rcd 4769, 4786-88 (1995).

²⁷ PCS Second Report, 8 FCC Rcd at 7735.

²⁸ Id. at 7734.

²⁹ Allocation of Spectrum Below 5 GHz, 10 FCC Rcd at 4779.

³⁰ Moreover, the universal service provisions of the Telecommunications Act of 1996 mandate adoption of policies which will grant schools, libraries, and health

B. There Is No Demonstrated Need to Use Spectrum at 5 GHz.

The Commission accepts uncritically petitioners' claims that the 5 GHz band is the appropriate spectrum for NII/SUPERNet devices. The spectrum below this range is alleged to be too congested, and higher frequencies arguably would increase the cost for equipment and would have even more limited propagation characteristics. NPRM, ¶ 34. There is no spectrum study in the record to support either of these propositions. The Part 15 Coalition submitted comments on this issue, suggesting that the existing Part 15 spectrum in the 902-928 MHz and 2400-2483.5 MHz bands is overly congested.³¹

In fact, as the Commission is well aware, there are 140 MHz of spectrum segments below 5 GHz which are becoming available for commercial use before 2000 and another 45 MHz by 2004.³² As for using spectrum at higher frequencies, if these devices are as popular as Apple and WINForum predict, the cost of equipment will come down to a level appropriate to the demand in a very short period of time.

Apple claims that the 5150-5250 MHz band should be used so that U.S. manufacturers can build HIPERLAN-compliant devices for the U.S. and European

professionals discounted access to wireline services. See 47 U.C.S. § 253(h). These discounts will facilitate wireline access to the NII, potentially lessening the need for wireless access for educational institutions.

³¹ See Comments of Part 15 Coalition, at 4 (July 10, 1995).

³² See Plan for Reallocated Spectrum, FCC 96-125 (released Mar. 22, 1996).

markets.³³ But, as Apple concedes, it is "not certain" that the HIPERLAN standard will be approved in Europe.³⁴ Moreover, the Commission has not proposed technical parameters for NII/SUPERNet devices identical to HIPERLAN. In short, there is nothing magic about the 5 GHz range, and in particular, 5150-5250 MHz. Given the potential adverse impact on licensed services in this band, the Commission should not assign this 100 MHz to NII/SUPERNet use.

IV. IF NII/SUPERNET DEVICES ARE ALLOWED TO ACCESS THE 5150-5250 MHZ BAND, THEN THE RULES MUST REFLECT THE REQUIREMENTS TO ACCEPT INTERFERENCE AND NOT TO CAUSE INTERFERENCE.

The Commission proposed rules for the NII/SUPERNet service are inconsistent with Part 15 because they would permit these devices to cause interference to licensed services. Although the Commission prudently rejected Apple's proposal for a protected "Part 16" service, the proposed rules fail to effectuate that decision, and they are not consistent with the Commission's policies regarding unlicensed devices. In order to make the rules for NII/SUPERNet devices consistent with Part 15, the Commission must make clear by rule that NII/SUPERNet devices have secondary status only, and they must accept interference from and cannot cause interference to primary services.

³³ See Apple's "Implementing the NII Band: Suggested Technical Rules," at 10 (May 3, 1996).

³⁴ Id.

A. The "Safe Harbor" Rule Must Be Eliminated.

Proposed Section 15.409(a) states that NII/SUPERNet devices "will not be deemed to cause interference to licensed services provided the devices operate in accordance with" the technical parameters adopted for the service. As discussed above, operation in accordance with the proposed technical parameters would permit NII/SUPERNet devices to cause unacceptable interference into NGSO MSS feeder links. Adoption of the proposed "safe harbor" in Section 15.409(a) would give NII/SUPERNET devices an undefined status between primary and secondary because the rule would condone interference into NGSO MSS feeder links. Therefore, regardless of the parameters that the Commission ultimately adopts for NII/SUPERNet devices, for the reasons specified below, it must eliminate Section 15.409(a) and the concept of a safe harbor.³⁵

First, the Commission cannot adopt a safe harbor rule in the context of the rules for operation of the Part 15 service. Section 15.409(a) is modelled on a similar rule adopted in the rulemaking for the Location and Monitoring Service (LMS). See NPRM, ¶ 54. In that proceeding, the Commission adopted a safe harbor for Part 15 devices which also use the 902-928 MHz band.³⁶ However,

³⁵ If the Commission eliminates Section 15.409(a), it can also eliminate Section 15.409(c), which requires NII/SUPERNet devices to accept interference. Section 15.5(b) covers both the obligation not to cause interference and the requirement to accept interference.

³⁶ See Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, 10 FCC Rcd 4695, 4715 (1995).

unlike this proceeding, the issues in the LMS proceeding involved the technical parameters for the service, LMS. Accordingly, the Commission was able to consider the potential for interference from Part 15 devices into LMS and adjust the rules for LMS in order to create a "safe harbor" for Part 15 devices. Indeed, the safe harbor for Part 15 devices in the 902-928 MHz band appears in the LMS rules rather than the Part 15 rules.³⁷

In this proceeding, the Commission only has under consideration the technical parameters for NII/SUPERNet devices. The parameters used for Globalstar™, Constellation and potential future applicants for MSS feeder links at 5 GHz are not in issue. Moreover, it would not be practicable to adopt a generalized safe harbor for all MSS systems because MSS technical parameters are likely to be specific to the MSS system.

Second, the safe harbor rule for the 902-928 MHz band was adopted in a proceeding where the Commission's new rules would affect an existing spectrum-sharing relationship between the licensed and unlicensed service.³⁸ Therefore, the safe harbor protected existing investment in unlicensed devices manufactured for the 902-928 MHz band.³⁹ Here, that is not the case at all because there is no Part

³⁷ See 47 C.F.R. § 90.361.

³⁸ See Automatic Vehicle Monitoring Systems, 10 FCC Rcd at 4710-18.

³⁹ See id. at 4714 (safe harbor rule in 902-928 MHz band is designed to balance the equities and value of existing users "without undermining the established relationship between unlicensed operations and licensed services").

15 equipment using the 5 GHz band. Accordingly, there is no justification for a safe harbor.

Without the factual predicate of LMS in this rulemaking, a safe harbor rule is per se inconsistent with Part 15. Section 15.5(b) states the Commission's general policy that operation of a Part 15 device "is subject to the conditions that no harmful interference be caused and that interference must be accepted that may be caused by the operation of an authorized radio station." By granting a safe harbor for a secondary service, the Commission shifts the burden of avoiding harmful interference to the licensed service using the band. This is flatly inconsistent with all rules and policies governing the relation between primary and secondary services.⁴⁰

Moreover, a safe harbor rule is inconsistent with the underlying premise of Part 15. By requiring Part 15 devices to operate on a non-interference basis, the Commission, on the one hand, can make available to consumers portable and mobile off-the-shelf RF radiators at low cost because, among other factors, there is no licensing or registration process, and, on the other hand, it can ensure licensees of primary services that multiple uses of the same spectrum will not impair their

⁴⁰ As the Commission recently noted, "unlicensed Part 15 devices in the 902-928 MHz band, as in any other band, may not cause harmful interference to and must accept interference from all other operations in the band." Automatic Vehicle Monitoring Systems, 10 FCC Rcd at 4714 (footnote omitted); see also Ford Motor Company, 9 FCC Rcd 2460, 2462 (1993) (consent decree requiring marketer of unlicensed devices to take action necessary to eliminate interference upon complaint); CBS, Inc., 56 RR 2d 840 (1984) (refusing to create exemption from Part 15 non-interference requirement for electronic and pipe organs used primarily by churches).

investment of resources in the station and licensing process. By "deeming" the requirement of Section 15.5(b) out-of-existence, the Commission arbitrarily vitiates this premise and violates the conditions under which it issues licenses to the primary service. Indeed, adopting an "unsafe" harbor like Section 15.409(a) discourages investment in services and stations which must be licensed, contrary to public interest. Under these circumstances, adoption of a safe harbor for NII/SUPERNet devices would be arbitrary and capricious and inconsistent with the Commission's own rules.⁴¹

B. If Used, the 5150-5250 MHz Band Must Be Limited to Unlicensed NII/SUPERNet Devices.

The Commission proposes to modify Section 15.205(a) of its rules to remove the restriction on in-band emissions from unlicensed devices in the 5150-5250 MHz band. However, in so doing, the Commission did not propose to limit the use of this band only to NII/SUPERNet devices. In other words, there is no explicit prohibition on marketing a cordless telephone which would use this band.

Accordingly, if the Commission grants NII/SUPERNet devices access to the 5150-5250 MHz band, then it should restore the restricted bandwidth in Section 15.205(a) to "4.5-5.25 GHz" and add a footnote which reads:

⁴¹ Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Ins., 463 U.S. at 43 (agency action must be set aside if it reached a conclusion "so implausible that it could not be ascribed to a difference in view or the product of agency discretion").

This restriction is limited to the band 4.5-5.15 GHz for NII/SUPERNet devices operating in accordance with Subpart E.

C. NII/SUPERNet Devices Operating in the 5150-5250 MHz Band Must Operate, If at All, at Very Low Power.

A critical factor in any allocation proceeding is consideration of protection for the interests and investments of incumbent licensed users in the band at issue.⁴² Barring an unequivocal demonstration that interference will not occur, the Commission must require NII/SUPERNet operations in the 5150-5250 MHz band to conform with technical parameters which ensure that the aggregate use would not cause interference to MSS feeder links. As discussed in the attached Technical Analysis, such a restriction would require that the aggregate EIRP density of the entire NII/SUPERNet service, including all users over a 3 million square mile area, must not exceed 0 dBW/MHz over any one MHz in the 5150-5250 MHz band at any instant in time. Although such a restriction would be substantially more stringent than the rules proposed in the NPRM, there would remain 250 MHz of spectrum in the higher portion of the band for operation at the less stringent parameters in the NPRM.

⁴² See PCS Second Report and Order, 8 FCC Rcd at 7757-73 ("A principal concern in the authorization of PCS in the 2 GHz band is that existing fixed microwave operations be protected"); Allocation of 1610-1626.5/2483.5-2500 MHz Bands for MSS, 9 FCC Rcd at 540-41 (adopting power limits and coordination requirements to ensure compatibility between LEO MSS systems and RDSS and other services).

V. CONCLUSION

For the reasons set forth above, LQL urges the Commission not to permit NII/SUPERNet devices access to the 5150-5250 MHz band, but, if it does, to limit the technical operations to a strictly non-interference basis only.

Respectfully submitted,

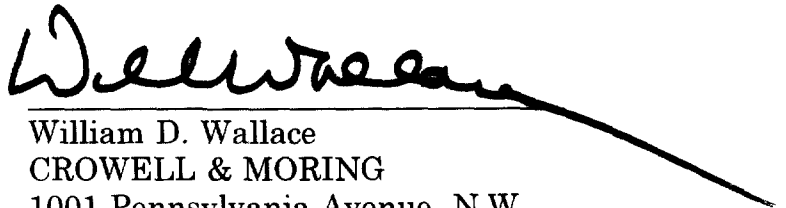
L/Q LICENSEE, INC.

Of Counsel:

William F. Adler
Vice President &
Division Counsel
GLOBALSTAR
3200 Zanker Road
San Jose, CA 95134

Leslie A. Taylor
Guy T. Christiansen
LESLIE TAYLOR ASSOCIATES
6800 Carlynn Court
Bethesda, MD 20817
(301) 229-9341

By:


William D. Wallace
CROWELL & MORING
1001 Pennsylvania Avenue, N.W.
Washington, DC 20004
(202) 624-2500

Its Attorneys

Date: July 15, 1996